JCOMM *in situ* Observing Platform Support Centre (JCOMMOPS)

(Submitted by the Technical Coordinator)

Summary and purpose of document

This document reports on the development of JCOMMOPS and its activities during the intersessional period.

ACTION PROPOSED

The panel will be invited to note the information included in the document, comment, and

(i)   Possibly make specific recommendations to the Technical Coordinator for the operations of JCOMMOPS.

(ii)   Endorse new JCOMMOPS Terms Of References as proposed by JCOMM/OCG following discussions with Ship Observations Team (SOT).

DISCUSSION

JCOMM *in situ* Observing Platform Support Center (JCOMMOPS) was established by JCOMM-I in June 2001. JCOMMOPS is operated by the DBCP&SOOP, and Argo Coordinators. DBCP, SOOP, and Argo therefore provide the resources needed to run JCOMMOPS. The Centre basically provides support in an integrated way for implementation, and operations of the DBCP, SOOP, and Argo programmes. Complete description of JCOMMOPS, including terms of references, can be found at:

> http://www.jcommops.org/doc/jcommops/jcommops.htm

Text of the presentation on JCOMMOPS that was made at the OceanOPS04 conference, Toulouse, 10-15 May 2004, can be found at:

> http://www.jcommops.org/doc/jcommops/JCOMMOPS-OceanOPS-2004.pdf

During the last intersessional period, JCOMMOPS continued to build up and is now fully operational. Developments will however continue as products and services offered by JCOMMOPS to the community need to be constantly adjusted to present needs.

JCOMMOPS development is realized in coordination with the Argo Technical Coordinator, Mathieu Belbéoch. The latter is concentrating on Argo aspects and monitoring tools; however, as the database, web server, and GIS are shared, general data processing and development aspects are realized in synergy between TC/DBCP&SOOP and Argo TC.

During the period September 2003 to August 2004, JCOMMOPS was also assisted by following students:

- Mathieu Lopes, software developments, July to September 2003
- Marianne Barrailh, software developments, 3 years, ½ time as of September 2003
- Irène Bouguerra, graphic artist, July – September 2004

The following was achieved during the considered period.

1) Operations and maintenance of the information systems:

Of course, for tasks below to be achieved properly, a good web information systems and database has to be (i) developed, (ii) operated, and (iii) maintained. So development, operations, and maintenance of such a system are routine tasks of JCOMMOPS staff. Some support is provided by CLS, for physical database administration, and computer network aspects. Tasks undertaken directly by JCOMMOPS staff include:

- Monitoring and operating the two web servers. JCOMMOPS applications were moved to a new server. Also, JCOMMOPS web site was upgraded to a fully dynamic web site.
- Monitoring daily and weekly automatic batches (e.g. getting information from other places, e.g. Argos database, GDP deployment log, Météo France GTS files, etc.)
- Monitoring and operating dynamic web pages and applications (using WebObjects). Applications were upgraded from WebObjects 4.5 to WebObjects 5.2.
- Executing routine monthly batches
- Monitoring the Geographical Information System (GIS)
- Database conceptual administration and monitoring
- Producing monthly products and maps
- Managing and monitoring database consistency and content in order to keep database reliable and up to date (platform and programmes status, statistics, list of GTS observations, platform locations, etc.). Information is manually entered in the database when needed.

It should be noted that operations alone to rigorously maintain consistent information from pieces grabbed here and there is a time consuming task requiring regular contacts with many actors from the marine community.

In May 2004, a crash disk occurred on the disk that hosted the web server. Server was consequently down for 24 hours. GIS (maps) products had to wait another 24H before being operational again. Better backup solution is now in place.

2) Developments

There will always be the need for developing new monitoring tools for the programme. In addition, existing tools need to be revamped and/or upgraded and/or re-written on a regular basis as computers, operating systems, and commercial software being used are upgraded or disappear from the market. It is therefore necessary to maintain computer development skills at JCOMMOPS although efforts are being made to reduce the percentage of time spent on software development to the minimum by using as much standard tools from the market as possible.

The following new developments were realized during the last intersessional period:

2.1) **Dynamic web site**: JCOMMOPS web site was upgraded to a new dynamic version of it. In other words, some of the database content is directly available on-line from it (e.g. list of platforms, news, documents, etc., see below).

2.2) **Maps:** Query page to easily access JCOMMOPS static maps (see Annex A); statistics were added on the map legends. The following maps are now produced monthly for the DBCP:
- Monthly status by country
- Monthly status, SST and air pressure
- Monthly status, SST, air pressure, and wind

  e.g. http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directProgFreq?prog=DBCP

2.3) **Deployment opportunities** application was finalized thanks to student Mathieu Lopes. The goal of the application is to query for all available deployment opportunities stored in the database by simply entering a deployment lat/lon box and period. However, for practical reasons, application has not been implemented yet.

2.4) **Buoy metadata collection scheme**: Thanks to EGOS funding, developments started at JCOMMOPS to develop a web application dedicated to the collection of metadata from drifting and moored buoys for the DBCP and EGOS. Scheme is being developed according to the specifications agreed upon by EGOS sub-group. It is planned that developments should be finished by the end of 2004 (collection of metadata), and that by early 2005 or mid-2005, all collected metadata should be made freely available via ftp through dedicated XML files. TC/DBCP traveled to Florida in January 2004 to discuss integration of GDP metadata within the proposed DBCP scheme with AOML and Technocean (as an example of buoy manufacturer using the system). Specific procedures were agreed upon to make the GDP and new DBCP scheme compatible. Historical EGOS metadata were provided by Anne Hageberg to JCOMMOPS.

2.5) **Graphical design**: Irène Bouguerra worked on a new graphical design for the web site and proposed a new JCOMMOPS logo more consistent with JCOMM one.

2.6) **News section**: A news section was established in JCOMMOPS web site. News are provided by the marine and oceanographic communities. For articles to appear in the DBCP News of DBCP web site section they must be marked as "DBCP". In addition they can be marked at "JCOMM" so that they are visible directly from the JCOMMOPS web site. The following DBCP related articles were published in the news section:

- Towards extending drifter array to 1250 units globally
- Buoy metadata collection scheme being developed at JCOMMOPS
- Use of real-time moored buoy observations for port applications
- Marlin-Yug BathyThermographic SVP-BT Drifter
- Keynote by former DBCP Chairman for publication of DBCP annual report for 2003
- BUFR code implemented for GTS distribution of buoy data

2.7) **WMO numbers**: As WMO numbering system became a bit complicated with specific numbering scheme being introduced for Argo and OceanSites, and as there was a need to document it, a new dedicated web page providing detailed explanations about it was written and added to the

web site (http://www.jcommops.org/wmo_numbers.html). See also annex B.

3) Available JCOMMOPS services

In August 2004, the following JCOMMOPS services were available:

Integrated products

- **News section**
  All: http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/news
  JCOMMOPS: http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/news?prog=JCOMMOPS

- **Platform status by country** (drifting buoys, moored buoys in the high seas, floats)
  http://w4.jcommops.org/cgi-bin/WebObjects/PTFcountry

- **Search for observing platforms**
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/ptf

- **Monthly GTS report** (input from 5 countries):
  http://w4.jcommops.org/cgi-bin/WebObjects/GTSReport

- **JCOMMOPS status maps** (high resolution map)
  http://www.jcommops.org/status_maps.html (summary)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek (search for a map)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=GTSM_SZ (salinity profiles)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=GTSM_TZ (temp profiles)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=GTSM_FMT (GTS formats)

- **Deployment opportunities** (static pages so far, dynamic application not on-line yet):
  http://www.jcommops.org/depl_opport/depl_opport.html (see annex)

- **Allocation of WMO numbers and ship call signs** (buoys, floats, XBTs):
  http://w4.jcommops.org/cgi-bin/WebObjects/WMOTelecom

- **List of electronic mailing lists:**
  http://www.jcommops.org/mailing_lists.html

- **Contacts**
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/contact

- **Help**:
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/help

- **Documents:**
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/doc

- **Documents of meetings:** (provided abbreviation of meeting is know, e.g. for DBCP-20)
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/doc?meeting=DBCP-20

- **Meetings:**
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/meeting

- **Search engine**
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/search
  e.g. searching "GTS": http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/search?string=GTS

- **Glossary and list of acronyms**:
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/glossary

DBCP products:

- **News**
  DBCP: http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/news?prog=DBCP

- **DBCP monthly dynamic status map** (zoom, click on buoy):
  http://w3.jcommops.org/WebSite/DBCP

- **DBCP real-time dynamic map** (updated daily, zoom, click on buoy)
  http://w3.jcommops.org/WebSite/DBCP_RT

- **Static maps**
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directProgFreq?prog=DBCP (all DBCP maps)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=DBM_CNTRY (monthly status by country)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=DBM_SPW (SST, P, Wind)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=DBM_SP (SST, P)

- **Application to relay quality information from PMOCs to PGCs via a dedicated web page** (potentially usable for VOS provided that WMO Pub. 47 is routinely imported into JCOMMOPS database)
  http://w4.jcommops.org/cgi-bin/WebObjects/QCRelay

- **Monthly DBCP GTS status by country** (high resolution map)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directProgFreq?prog=DBCP

- **Histograms showing difference between buoy data distributed on GTS and first guess field**
  http://w4.jcommops.org/cgi-bin/WebObjects/Histogram

- **Time series regarding the quality of buoy data** (from buoy monitoring statistics)
  http://w4.jcommops.org/cgi-bin/WebObjects/StatSeries.woa/wa/progDirect?prog=DBCP)

- **Links to products developed and made available elsewhere such as the Information Service Bulletin on non-Drifting Ocean Data Acquisition Systems (ODAS) which is operated by MEDS:**
  http://www.meds-sdmm.dfo-mpo.gc.ca/odas/main.htm

Argo products:

Argo Information Centre web site and products developed by Mathieu Belbéoch:

- **Argo Information Centre web site**
  http://argo.jcommops.org

- **News**
  Argo: http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/news?prog=Argo

- **Argo maps**
  http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/maps
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directProgFreq?prog=Argo
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=ARGO_CNTRY (monthly map by country)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=ARGO_NTAGE (network age)

- **Argo dynamic map** (refreshed daily):
  http://w3.jcommops.org/website/ArgoMap

- **Argo network operational status**
  http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/status

- **Argo national programmes**
  http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/prog

- **Argo list of operational floats:**
  http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/ptfSearch (query)

- **Looking for a particular platform** (WMO number)
  http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/ptf?wmo=53553

- **Argo float deployment notification:**
  http://w3.jcommops.org/cgi-bin/WebObjects/Notification

- **Argo contacts**
  http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/contact

- **Argo related documents**
  http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/doc

- **Argo related meetings**
  http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/meeting

- **AIC Newsletter:**
  http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/news

SOT products:

- **News**
  SOOP: http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/news?prog=SOOP

- **Ship Observations Team (SOT) Mailing list**:
  sot@jcommops.org

- **SOT web page:**
  http://www.jcommops.org/sot/

- **SOOP line sampling indicators:**
  http://w4.jcommops.org/cgi-bin/WebObjects/SOOPIndicators

- **SOOP semestrial survey** (see annex for semestrial survey map):
  http://www.jcommops.org/soop/semestrial_survey.html

- **SOOP semestrial dynamic map** (colors by country, zoom, click on drop):
  http://w3.jcommops.org/WebSite/SOOP

- **SOOP monthly GTS dynamic map** (colors by GTS origin, zoom, click on drop, see annex):
  http://w3.jcommops.org/WebSite/SOOPM

- **Static maps:**
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directProgFreq?prog=SOOP (All SOOP maps)
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=SOOPM_GTS (GTS monthly BATHY status)

- **Monthly SOOP GTS status by originating centre** (high resolution map, see annex)**:**
  http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directProgFreq?prog=SOOP

- **Definition of SOOP lines (query):**
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/soopLine

- **Definition of SOOP line types (query):**
  http://w4.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/soopLineType

- **GTSPP monthly QC report** (query):
  http://w4.jcommops.org/cgi-bin/WebObjects/GTSPPQCReport

3) Proposed new Terms OF References for JCOMMOPS

The first meeting of the Ship Observations Team (SOT), Goa, India, 25 February – 2 March 2002, established a task team on SOT coordination. Following this work, at its first session, La Jolla, 24-27 April 2002, the JCOMM Observations Coordination Group (OCG) suggested a number of services that might be offered for SOT coordination in the near future, using existing resources either at JCOMMOPS or at specific agencies in Member States (e.g. QC feedback for VOS, SOT web page, information on telecommunication systems, SOT logo). A range of other services was identified which needed additional resources (e.g. SOT brochure, VOS web site).

At the 2nd meeting of the JCOMM Ship Observations Team (SOT), London, 28 July – 1 August 2003, the report of the Task Team on SOT coordination was discussed. It related to the possible extension of the work of JCOMMOPS to support overall SOT coordination. SOT-I had recognized the need for a detailed development plan for SOT coordination before consideration could be given to estimating and identifying the resources needed for further JCOMMOPS development in support of the SOT. This plan would include a specification of requirements (in particular for VOS and ASAP under JCOMMOPS, together with the integration aspects), plus an implementation plan to achieve full operational status.

Task Team agreed that all of the activities proposed in the report for JCOMMOPS to support SOT coordination were potentially of value to the work of the team, including in particular a web-based system, such as a web forum, for quickly implementing remedial action on identified problems in ship-based observations. Such a system could be similar to the existing QC guidelines implemented by the DBCP for buoy data. At the same time, the meeting recognized that a number of the activities, both one-off and ongoing, contained in the plan might most effectively be done in national agencies, rather than on the basis of additional funding resources provided to JCOMMOPS. The meetings identified specific new activities and functions for JCOMMOPS which should be developed and implemented within the facility itself. These included adaptation of some of the monitoring tools already provided to the DBCP, SOOP for the VOS programme, and in particular (i) maps to show global distribution of VOS SHIP observations to help identify data sparse regions, (ii) metrics to quantify SHIP performance by parameters eg AP, SST etc, and (iii) performance indicators to show timeliness of the receipt of SHIP observations.

Based on the outcome from SOT-2, issue was further discussed by OCG in early 2004, and new Terms of References for JCOMMOPS proposed:

Terms of Reference
JCOMM in situ Observing Platform Support Centre (JCOMMOPS)

The JCOMMOPS was established by JCOMM-1 in 2001 to facilitate the implementation of operational in situ ocean and marine meteorology observing systems associated with the Data Buoy Cooperation Panel (DBCP), the Ship Observations Team (SOT), and the Argo Science Team (AST). Under the overall guidance of the JCOMM Observations Coordination Group and following the direction of the DBCP, SOT and AST the JCOMMOPS shall:

(i) Act as a focal point for implementation and operation of relevant observing platforms and provide assistance to platform operators for free and unrestricted exchange of data by, for example, providing information on telecommunications systems, clarifying and resolving issues between platform operators and telecommunications system operators, and encouraging the implementation of standard formats;

(ii) Maintain information on relevant data requirements for observations in support of GOOS, GCOS, and the WWW as provided by the appropriate international scientific panels and JCOMM Expert Teams and Groups, and routinely provide information on the functional status of the observing systems;

(iii) Provide a Gateway for information on instrumentation deployment and servicing opportunities, and on operator contact information; and

(iv) Provide information on the observational program; for example, on instrumentation, on instrument evaluation, and on data quality.
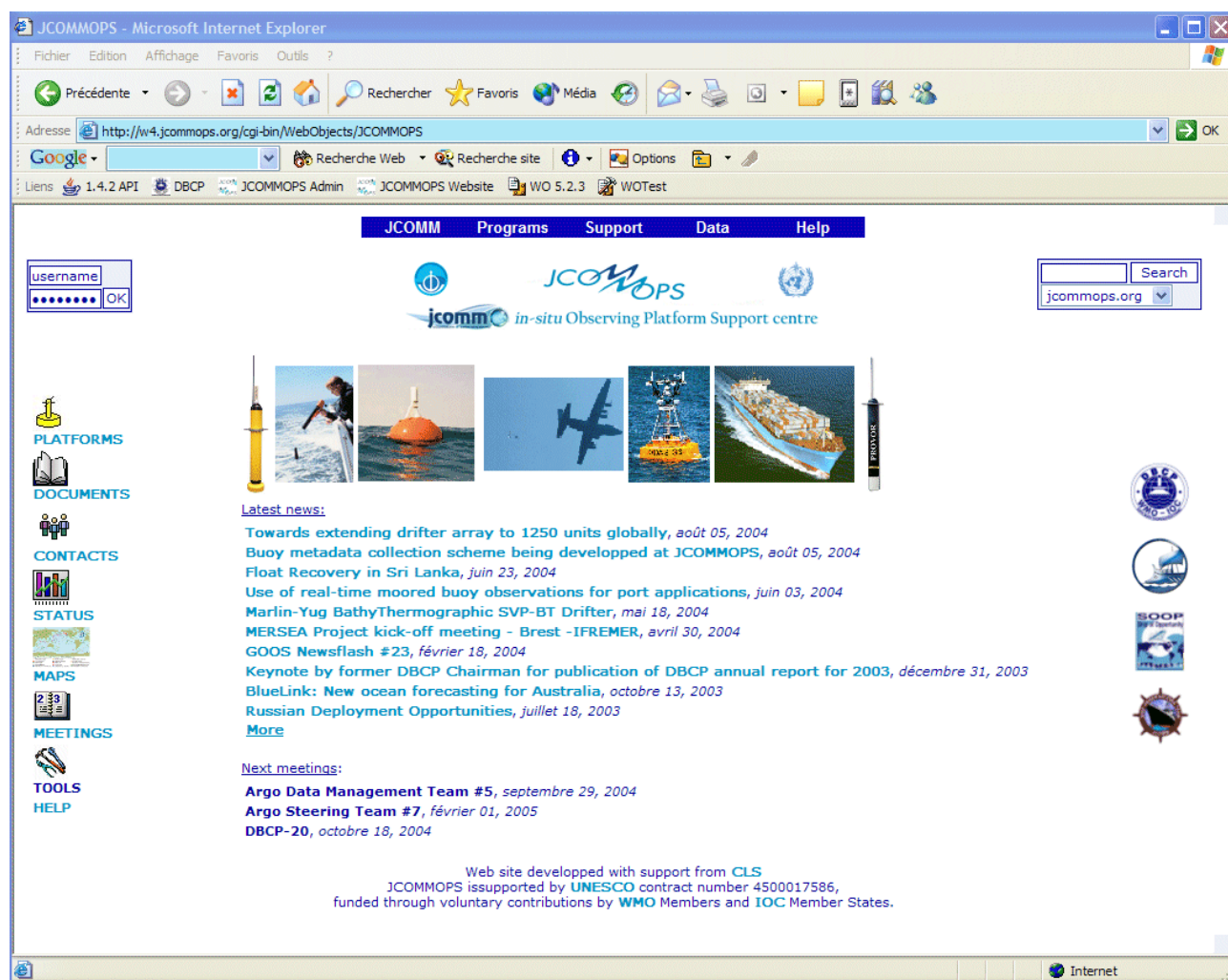
The DBCP is invited to review the new proposed ToR and possibly endorse them. New ToR will be submitted to JCOMM-II for adoption.

ANNEX A

Examples of JCOMMOPS products

1)   New Home page

http://www.jcommops.org

2)   News section

News published, 3/6/2004, Use of real-time moored buoy observations for port applications

Use of real-time moored buoy observations for port applications 03/06/2004

The Indian National Data Buoy Programme which is under the direction of K. Premkumar of the National Institute of Ocean Technology (DOD), Chennai, India, is an essential component of the DBCP implementation strategy, for the Arabian Sea, the Bay of Bengal, and the Indian Ocean, and provides an excellent example of use of real-time moored buoy observations for port applications.

(article published in **Port Technology International**, Summer 2004 issue)

Real-time met-ocean observations by moored buoys have been recognised as an essential tool to provide systematic and long-term information on variety of met-ocean parameters important to coastal / marine environment in varieties of nation building activities. Moored buoys are floating platforms equipped to measure parameters like air pressure, air temperature, humidity, radiation, wind, wave, current, salinity, and surface & subsurface water temperature. Considering the importance of ocean observations to the country like India having a long coastline of about 7000km and a vast ocean area of 2million sq. km of EEZ available for exploitation, Department of Ocean Development, Government of India has established the National Data Buoy Programme (NDBP) in 1997 at National Institute of Ocean Technology (NIOT) Chennai. Programme which is placed under the direction of K. Premkumar, vice-chairman of the Data Buoy Cooperation Panel (DBCP) for Asia, is an essential component in the region of the DBCP implementation strategy. A network of 12 data buoys have been established both in Arabian Sea and Bay of Bengal during the implementation period of 1997 to 2002 and it has presently increased to 20.

One of the main objectives of the programme is to collect the real time information on the upper ocean state importantly for the early detection of the hazardous cyclone before it strikes the coast. Because of the unique geographic location and environmental condition, the north east coast of India is identified as most vulnerable to the disruptive effects of coastal flooding, storm surges and tropical cyclones which demands for an accurate and timely warning of severe weather.
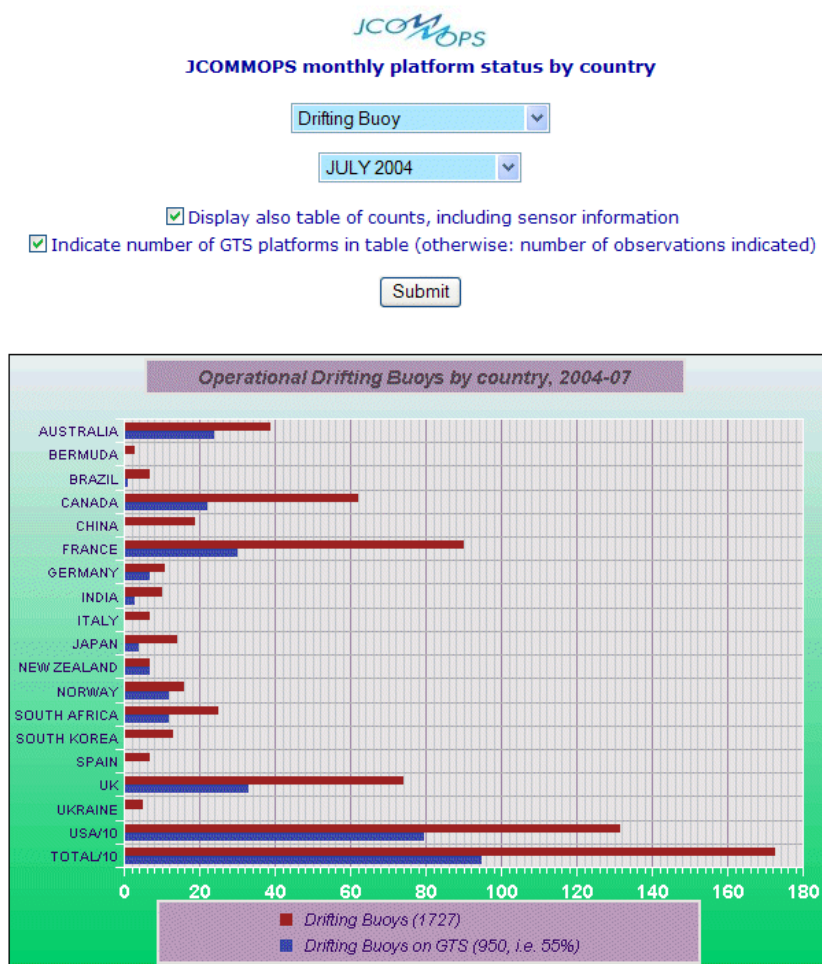
Real-time measurements of parameters like waves, winds and currents are highly useful to Ports for various regular as well as developmental activities. Depending on wind intensity and direction, the tides in ports can be amplified and deviated significantly from the predicted levels thus become a critical requirement for safe navigation especially during severe weather conditions. The information on currents is highly useful for ship maneuvering while approaching channels, turning basins and at entrances. The real-time information on met-ocean parameters are required for safe & cost-effective navigation; hazardous material, oil-spill prevention & response; search & rescue; to understand sea erosion & sediment transport to tackle siltation problems and other scientific studies related to port development. To cater the requirements of Ports, NIOT has already installed data buoys at five Indian Ports (Goa, Mangalore, Tuticorin, Ennore & Pipavav) and the real time data and data products are being provided for their application. The data buoy information is highly useful for naval and merchant ships for the efficient ship operation and NHO is extensively using buoy data for the issue of such sailing notification in the Indian Sea.

The existing project designed to be expandable, allowing the buoy system to host additional research instrumentation to enable comprehensive scientific experiments. In addition to met-ocean observations, future work will include the data buoy measurements in the development of a nowcast / forecast wave and storm surge model covering the entire coastal Bay of Bengal region. NDBP has also initiated the work of increasing the buoy network through indigenous production to 40 by the end of 2007. Not surprisingly, the DOD/NIOT buoys have become an indispensable tool for the operational users like India Meteorological Department (IMD), as they extensively rely on the realtime data provided by NDBP for their operational activities especially during bad weather periods, so that IMD will be in a position to provide the precise information to take adequate measures in avoiding loss of lives and wealth of the country.


NATIONAL DATA BUOY PROGRAMME
of
Department of Ocean Development - Govt. of India

Data buoy locations

3)   Platform status by country
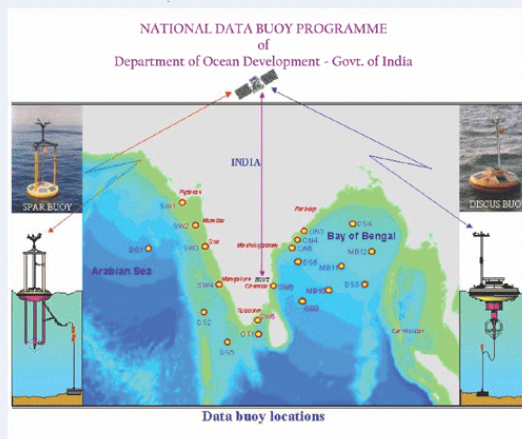
http://w4.jcommops.org/cgi-bin/WebObjects/PTFcountry

Country	Drifting Buoys	Drifting Buoys on GTS	Air P	Tend.	SST	Air T	Hum.	Wind	Waves	Sub/T
AUSTRALIA	39	24	24	24	24	9	0	2	0	0
BERMUDA	3	0	0	0	0	0	0	0	0	0
BRAZIL	7	1	1	0	0	0	0	1	1	0
CANADA	62	22	12	11	16	1	0	0	0	0
CHINA	19	0	0	0	0	0	0	0	0	0
FRANCE	90	30	26	24	28	2	0	3	0	2
GERMANY	11	7	3	1	0	5	0	0	0	0
INDIA	10	3	3	3	3	0	0	0	0	0
ITALY	7	0	0	0	0	0	0	0	0	0
JAPAN	14	4	1	0	3	1	0	0	0	0
NEW ZEALAND	7	7	7	3	7	5	0	0	0	0
NORWAY	16	12	11	9	7	11	0	0	0	0
SOUTH AFRICA	25	12	9	10	10	0	0	0	0	0
SOUTH KOREA	13	0	0	0	0	0	0	0	0	0
SPAIN	7	0	0	0	0	0	0	0	0	0
UK	74	33	30	30	30	0	0	1	0	0
UKRAINE	5	0	0	0	0	0	0	0	0	0
USA	1318	795	198	188	737	11	0	25	0	0
Total	1727	950	325	303	865	45	0	32	1	2

Remark: Statistics computed from GTS *in situ* marine data provided by Météo France.

4) **DBCP daily status (dynamic "clickable" map)**

Updated daily based upon GTS data from Météo France. 7-day drifter track.
http://w3.jcommops.org/WebSite/DBCP_RT
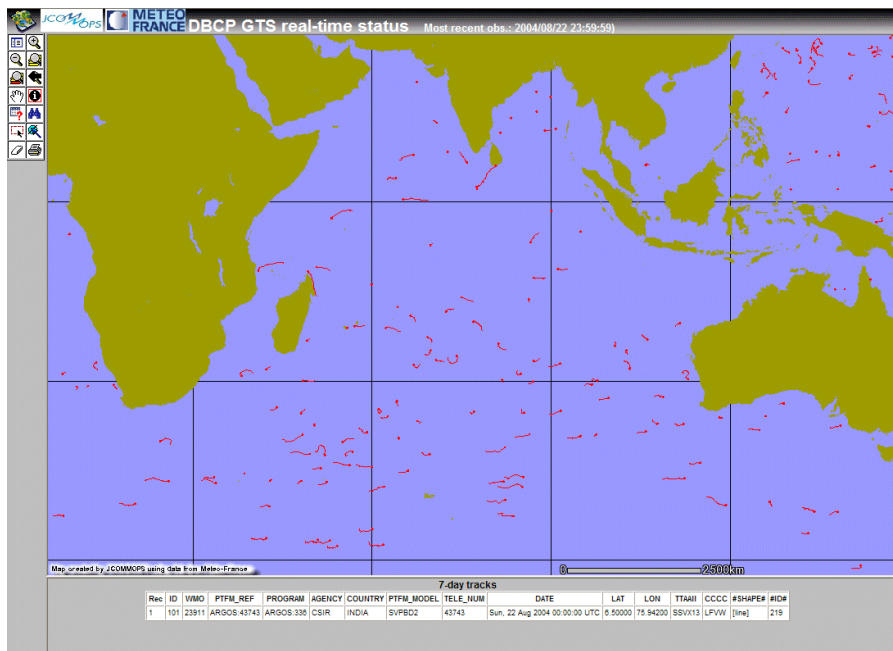
5) **DBCP monthly status (dynamic "clickable" map)**

Updated monthly based upon GTS data from Météo France.
http://w3.jcommops.org/WebSite/DBCP
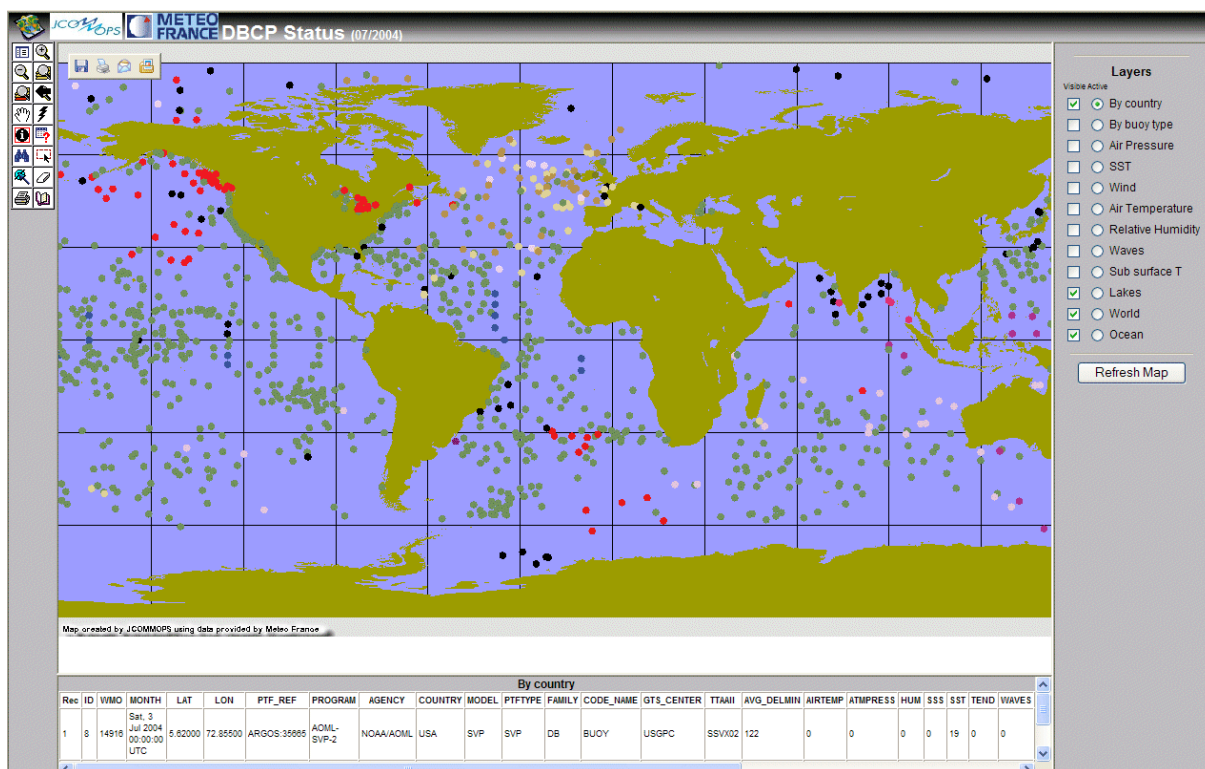
6)   DBCP monthly map of reported variables (GTS)

High resolution static map (gif). Produced using GTS data from Météo France.
http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=DBM_SPW
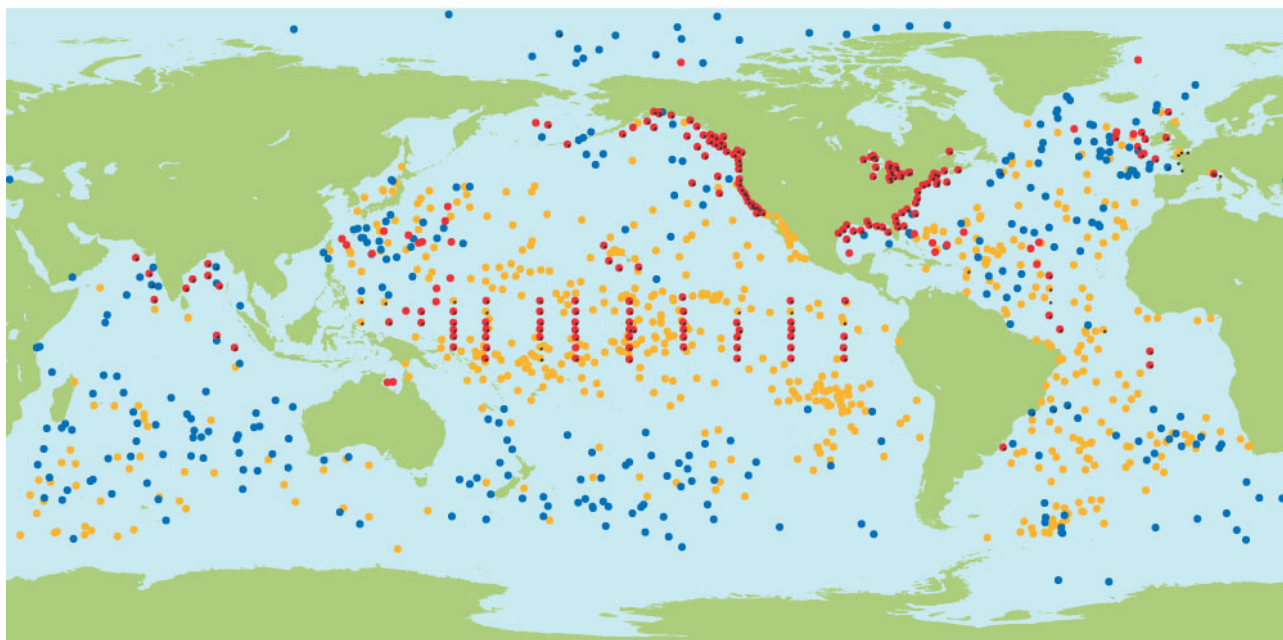
DBCP status (SST, P, Wind), July 2004 (data buoys reporting on GTS)

● Air pressure   ● SST   ● Wind
⊙ Moorings

Note: Data received from GTS at JCOMMOPS via Météo-France

7)   DBCP monthly status map by country (GTS)

High resolution static map (gif). Produced using GTS data from Météo France.
http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=DBM_CNTRY
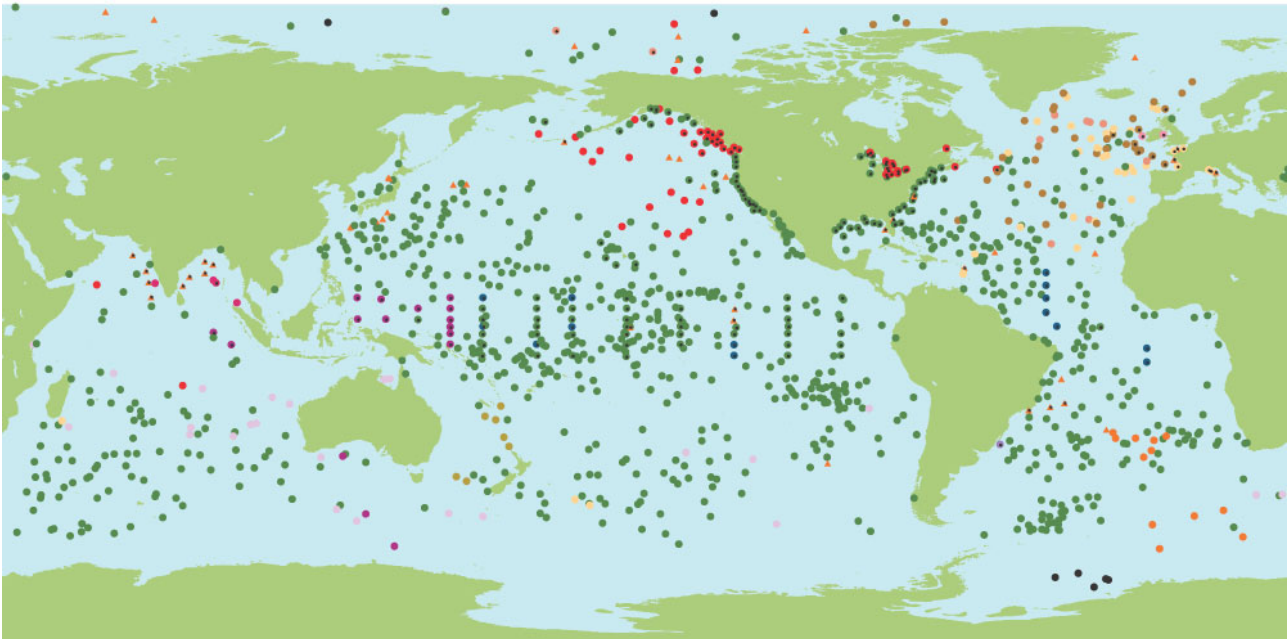
DBCP status by country, July 2004 (data buoys reporting on GTS)

Drifting buoys: 950   Moored buoys: 191

AUSTRALIA (24)	BRAZIL (1)	BRAZIL/FRANCE/USA (14)
CANADA (22, 29)	FRANCE (30, 7)	GERMANY (7)
INDIA (3, 1)	IRELAND (2)	JAPAN (4, 13)
NEW ZEALAND (7)	NORWAY (12)	SOUTH AFRICA (12)
UNITED KINGDOM (33, 7)	UNITED STATES (795, 118)	⊙ MOORINGS
▲ UNKNOWN		

Note: Data received from GTS at JCOMMOPS via Météo-France; number of drifting and moored buoys in brackets respectively

8)   Quality histograms
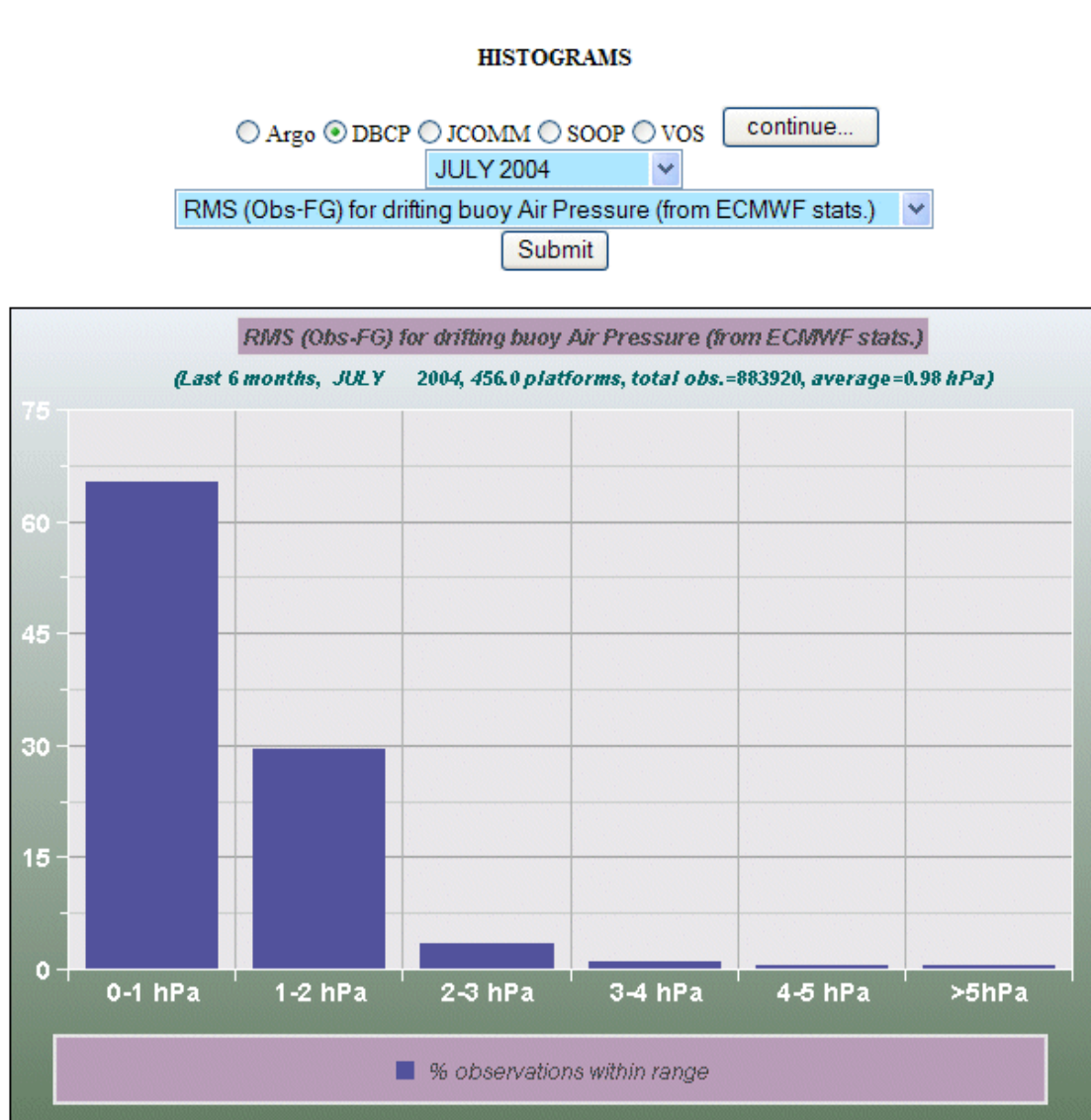
http://w4.jcommops.org/cgi-bin/WebObjects/Histogram

HISTOGRAMS

○ Argo ⊙ DBCP ○ JCOMM ○ SOOP ○ VOS   [continue...]

[JULY 2004 ▾]

[RMS (Obs-FG) for drifting buoy Air Pressure (from ECMWF stats.) ▾]

[Submit]

RMS (Obs-FG) for drifting buoy Air Pressure (from ECMWF stats.)

(Last 6 months, JULY   2004, 456.0 platforms, total obs.=883920, average=0.98 hPa)

RMS (Obs-FG) for drifting buoy Air Pressure (from ECMWF stats.)
Last 6 months, JULY 2004
456.0 platforms, total obs.=883920, average=0.98 hPa

Range	Value	Percent
0-1 hPa	576802	65.26
1-2 hPa	260086	29.42
2-3 hPa	30040	3.40
3-4 hPa	7848	0.89
4-5 hPa	4468	0.51
>5hPa	4676	0.53

9) Time series on quality of buoy data

http://w4.jcommops.org/cgi-bin/WebObjects/StatSeries.woa/wa/progDirect?prog=DBCP)

Monthly accepted number of observations
(computed using buoy monitoring statistics)
Apr 2002 to Jul 2004
Drifting Buoys; Geo-physical sensor: Air Pressure

10) **SOOP Semestrial survey map (by country)**

High resolution static map (gif). Produced on a semestrial basis using XBT data submitted by
SOOP operators to the SOOP Coordinator.

http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek
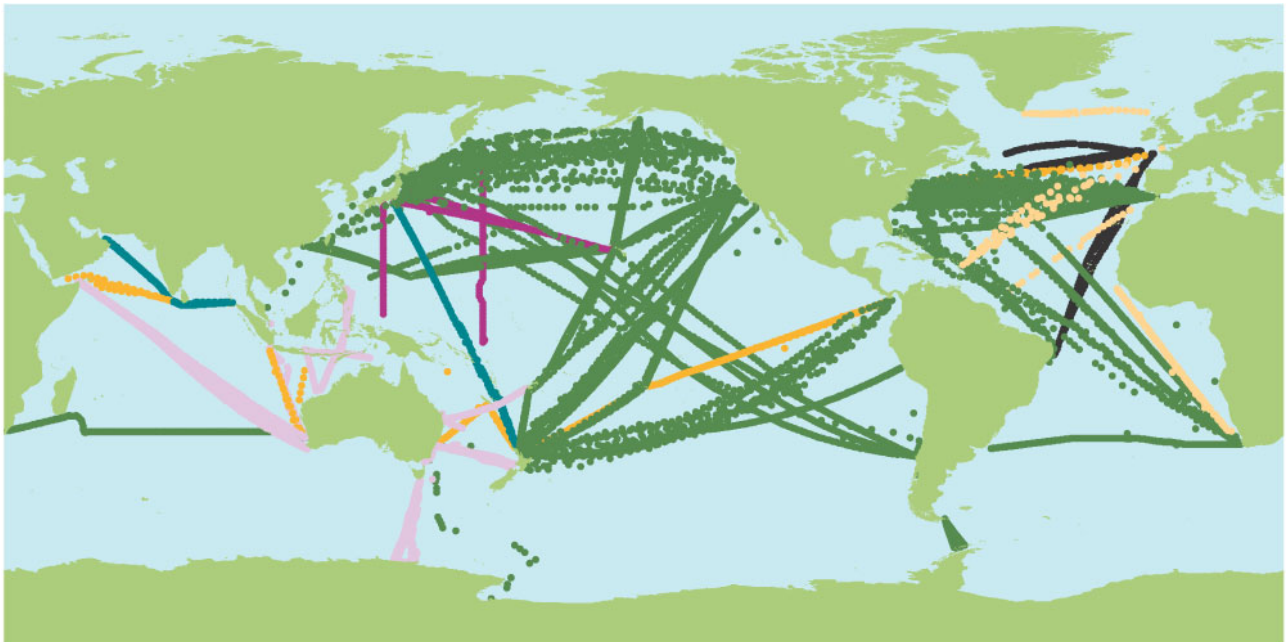
SOOP semestrial survey, January 2003 to December 2003
Total XBT profiles: 18337

AUSTRALIA (2863)   FRANCE (386)   GERMANY (617)
JAPAN (503)   JAPAN/USA (650) NEW CALEDONIA (685)
UNITED STATES (12633)

Information on drops submitted to SOOP Coordinator.
Note: Number of XBT profiles in brackets

11)   SOOP monthly GTS map (by originating centre)

High resolution static map (gif). Produced using GTS data from Météo France.

http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=SOOPM_GTS
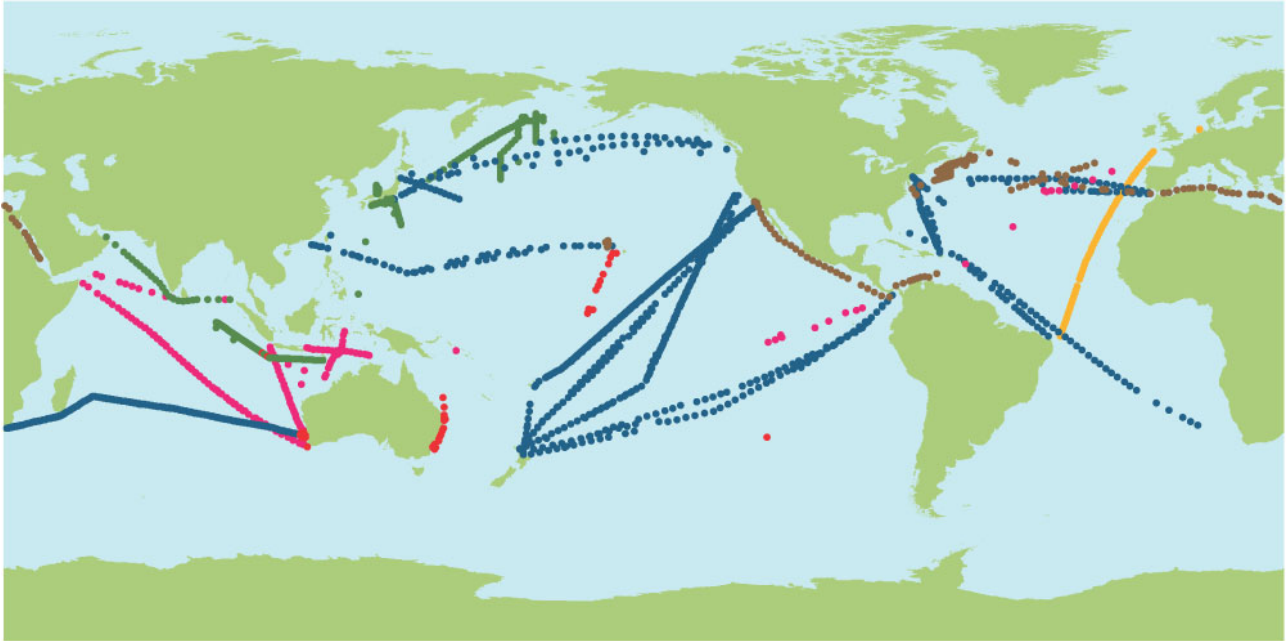
SOOP GTS monthly status, July 2004 (XBT profiles on GTS)
Total XBT profiles on GTS: 1839

● AMMC (Melbourne) (79)   ● CWOW (Montreal) (175)   ● EDZW (Offenbach) (93)
● KWBC (Washington-DC) (1071)   ● LFPW (Toulouse) (179)   ● RJTD (Tokyo) (242)

BATHY reports by GTS originating centre.
Notes: Data received at JCOMMOPS via Météo-France; GTS data source is not necessarily related to country in charge of programme

12)   Argo monthly status by country

High resolution static map (gif). Produced using Argo float data provided by float operators.
http://w4.jcommops.org/cgi-bin/WebObjects/MapSeek.woa/wa/directMapType?type=ARGO_CNTRY
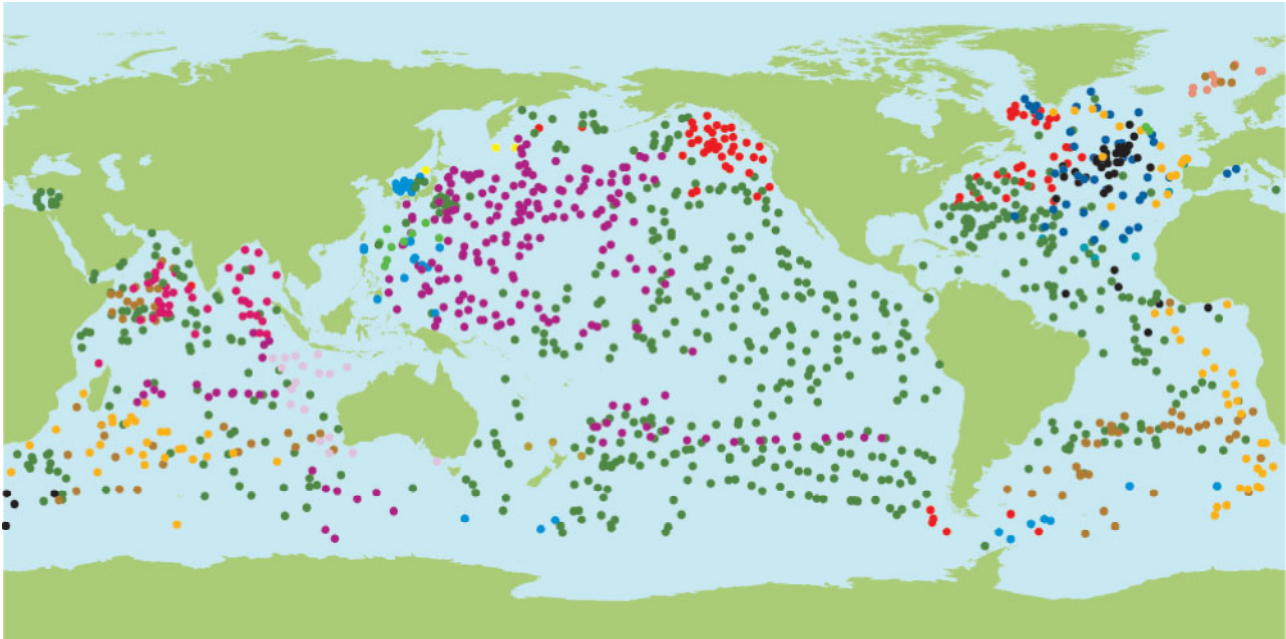
Argo Network, as of July 2004
(1294 Floats)

AUSTRALIA (18)
CANADA (79)
CHINA (9)
DENMARK (0)
EUROPEAN UNION (44)

FRANCE (76)
GERMANY (43)
INDIA (41)
IRELAND(2)
JAPAN (214)
KOREA (Rep. of) (41)

MAURITIUS (1)
NEW ZEALAND (3)
NORWAY (9)
RUSSIAN FEDERATION (3)
SPAIN (7)
UNITED KINGDOM (75)
UNITED STATES (629)

13)   List of operational Argo floats

http://w3.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/ptfSearch

58 Platform(s)   Display 10 items   ◁ Page 1 of 6 ▷

	Status	WMO ID	Telecom ID	Date	Lat	Lon	Model	Program	Data	# Profiles	Age	Depth	Label
1	▭	2900274	30764	20/08/2004	6.2667	93.0617	Provor	Argo INDIA	▭▭	8	14.1	789	
2	▭	2900353	28707	24/08/2004	2.1186	89.0176	APEX	Argo INDIA	▭▭	15	3.1	999	▭
3	▭	2900261	30609	23/08/2004	6.9806	67.9885	APEX	Argo INDIA	▭▭	16	14.5	1200	▭
4	▭	2900357	28268	22/08/2004	1.8310	92.1069	APEX	Argo INDIA	▭▭	14	3	999	▭
5	▭	2900269	30670	24/08/2004	14.3809	87.4022	Provor	Argo INDIA	▭▭	11	14.1	830	
6	▭	2900354	28706	24/08/2004	.3504	92.8298	APEX	Argo INDIA	▭▭	15	3.1	999	▭
7	▭	2900226	29510	05/08/2004	19.4154	87.3071	APEX	Argo INDIA	▭▭	75	21.4	717	
8	▭	2900339	28652	22/08/2004	11.1798	62.5570	APEX	Argo INDIA	▭▭	16	3.6	1325	▭
9	▭	2900273	30736	21/08/2004	13.0352	96.7674	Provor	Argo INDIA	▭▭	9	14.1	1062	
10	▭	2900344	28698	22/08/2004	4.4602	63.9396	APEX	Argo INDIA	▭	17	3.6		▭

◀ export 🖨

14)   GTS Monthly report

This report was originally produced for SOOP and included only BATHY data; now BUOY and TESAC data are also included plus statistics by MEDS, Canada, on the different versions of BATHY and TESAC reports used.

http://w3.jcommops.org/cgi-bin/WebObjects/GTSReport

Monthly GTS report

This form permits to get statistics for *in situ* marine observing stations which reported on GTS during the month. A few monitoring centres (Australia, Canada, France, Japan, USA) provide JCOMMOPS with such statistics on a monthly basis. Some centres might be specialized for certain types of GTS reports so statistics for a given observing platform are not necessary available from all centres. For BATHY only, click here for explanations regarding the report and for months prior to December 2002. Attention, you must select a monitoring centre (click on "Reports monitored by ..." button then select a country) before being able to search the database. Canada (MEDS) monitors different versions of BATHY (JJYY/JJVV) and TESAC (KKXX, KKYY) code forms which are being used so select that country if you are interested in this comparison.

Monitoring Centre	Ship/buoy name	WMO or Call sign	Argos ID	Operator	TTAAii CCCC	Code letters	Argos inserted	Nb received	Duplicates	Average Delay (min)
AUS		/////				JJVV		403	0	
JPN	UFS EMS	10004		SOO BSH		JJVV		110		
FRA	UFS EMS	10004		SOO BSH		JJVV		110	0	
AUS	UFS EMS	10004		SOO BSH		JJVV		107	3	
USA	UFS EMS	10004		SOO BSH		JJVV		110		
CAN	UFS EMS	10004		SOO BSH		JJVV2		118	0	
AUS	DEUTSCHE BUCHT	10007		SOO BSH		JJVV		87	3	
JPN	DEUTSCHE BUCHT	10007		SOO BSH		JJVV		90		
USA	DEUTSCHE BUCHT	10007		SOO BSH		JJVV		90		
CAN	DEUTSCHE BUCHT	10007		SOO BSH		JJVV2		78	0	
FRA	DEUTSCHE BUCHT	10007		SOO BSH		JJVV		90	0	
USA	LEUCHTTURM KIEL	10044		SOO BSH		JJVV		110		
CAN	LEUCHTTURM KIEL	10044		SOO BSH		JJVV2		117	0	
FRA	LEUCHTTURM KIEL	10044		SOO BSH		JJVV		110	0	
AUS	LEUCHTTURM KIEL	10044		SOO BSH		JJVV		109	1	

ANNEX B

Information on WMO numbers
http://www.jcommops.org/wmo_numbers.html

JCOMM *in-situ* Observing Platform Support centre
www.jcommops.org

What is a WMO number and how to get/allocate WMO numbers?

WMO numbers are allocated for ocean platforms reporting on GTS. WMO numbers are allocated depending upon platform type, and deployment area (see table and map below). Considered platform types are drifting buoys, moored buoys, ocean reference sites, and profiling floats (Argo).

General form of a WMO number is A_1b_wnnn except for profiling floats where it is A_1b_wnnnnn:

- A_1b_w represents the WMO regional association area (A_1) and sub-area (b_w) belonging to the area indicated by A_1 where the platform is being deployed.

- nnn (or nnnnn for profiling floats) is the serial number assigned to the platform for that WMO region and sub-area corresponding to the deployment area. Serial numbers are allocated depending upon platform type as shown in the table below.

Reallocation, uniqueness:

- For drifting and moored buoys, provided that buoy type and deployment area does not change, WMO number can be reallocated to a new buoy, 3 months at the earliest after the end of the buoy operational life-time. In the contrary, if your buoy programme stops and you do not intend to deploy buoys in the future, please release the WMO numbers to your National Focal Point.

- For ocean sites and profiling floats they are unique and can't therefore be reallocated.

**Table 1: rules for WMO number allocation**

Platform type	Format	Reporting code form	Deployment area	Serial no.	Reallocation	Comment
Drifting buoys	A_1b_wnnn	BUOY, BUFR	A_1=WMO region, b_w=sub-area	nnn: 500 to 999	Yes, after 3 months	Surface drifting buoys, http://www.dbcp.noaa.gov/dbcp/
Moored buoys	A_1b_wnnn	BUOY, BUFR SHIP	A_1=WMO region, b_w=sub-area	nnn: 000 to 499	Yes, after 3 months	Surface meteorological and/or oceanographic buoys, http://www.dbcp.noaa.gov/dbcp/
Ocean sites	A_184nn	BUOY	A_1=WMO region	nn: 00 to 99	No, unique numbers	Ocean reference sites, http://www.oceantimeseries.org/index.htm
Profiling floats	A_19nnnn	TESAC	A_1=WMO region	nnnnn: 00000 to 99999	No, unique numbers	Argo profiling floats, http://argo.jcommops.org/

Obtaining WMO numbers: Blocks of WMO numbers are allocated to the countries by the WMO Secretariat (see WMO block allocation at http://www.wmo.ch/web/aom/marprog/Operational-Information/buoy-ids.htm). National Focal Points for buoy programmes are responsible for allocating the WMO numbers nationally. The List of National Focal Points for buoy programmes is available via the following link: http://www.wmo.ch/web/aom/marprog/Wordpdfs/Jcomm-Groups/dbcp_fp.pdf . For obtaining WMO numbers, contact your National Focal Point and provide him/her with following information and he/she will provide you with the required WMO numbers:

1. Platform type (drifting buoy, moored buoy, ocean site, profiling float)

2. Number of platforms of the type above, and for each platform:

3. Approximate deployment area

4. International programme in which the buoy participates, if any.

If there is no National Focal point in your country, then you can contact the WMO Secretariat directly, the Technical Coordinator of the DBCP (buoys), or the Argo Technical Coordinator (profiling floats). The latter two can also contact the appropriate National Focal Point on your behalf if desired.

Figure 1: WMO regional association area (A_1, 1st digit) and sub-area (b_w, 2nd digit) for allocation of WMO numbers based upon buoy deployment area
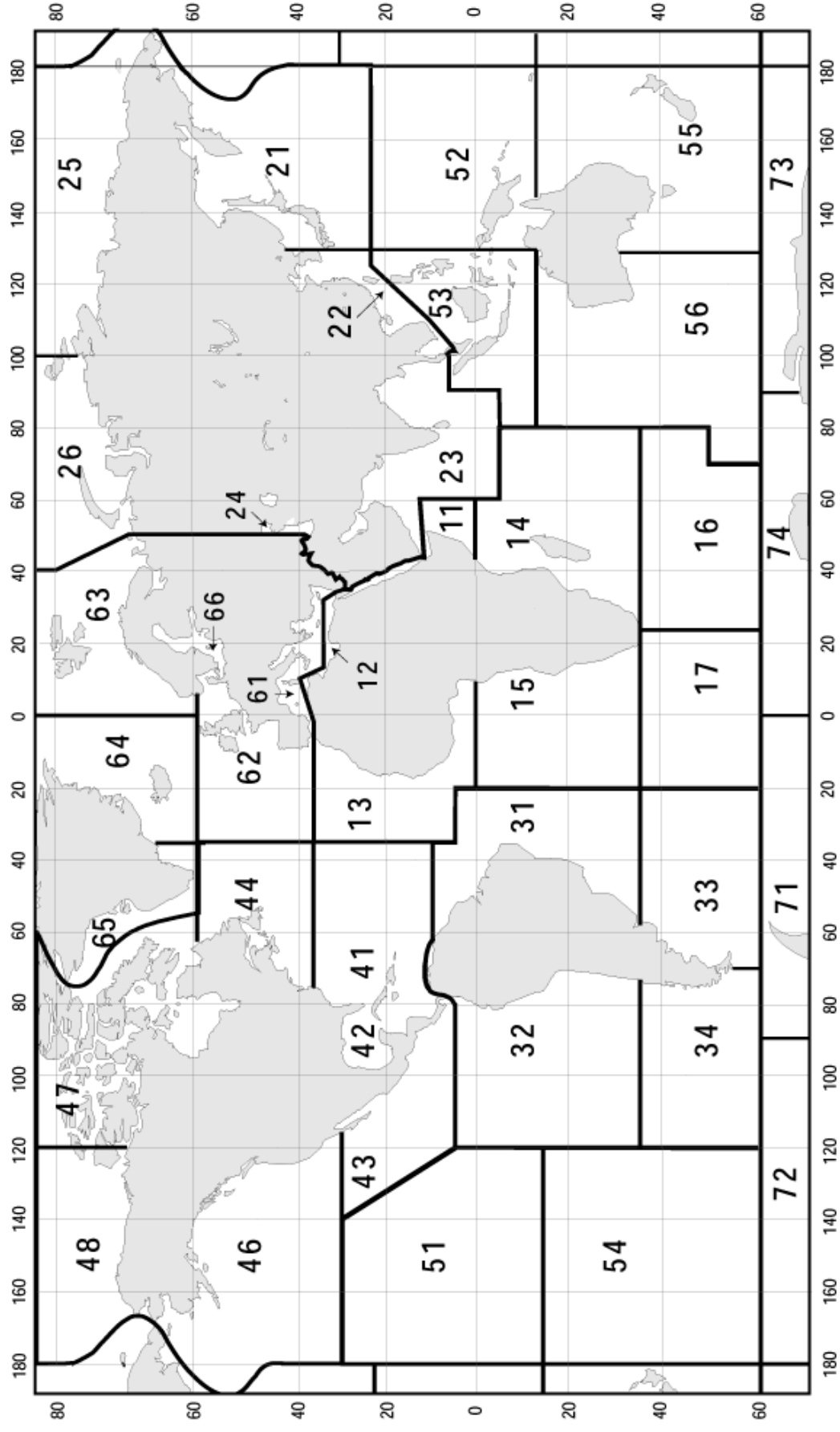
Notes:

- **Drifting and moored buoys**: WMO numbers are allocated in the series nnn from 000 to 499. Hence, an allocated WMO number can be used for a moored buoy (i.e. the provided value of nnn), and for a drifting buoy (i.e. 500 added to the provided value of nnn).

- **Argo profiling floats**: Observational data from profiling sub-surface floats deployed under Argo and similar projects are distributed on the GTS in TESAC code. The Data Buoy Cooperation Panel (DBCP) has developed an extension of the existing buoy identifier system to facilitate easy identification of the reports from these floats, as well as retain a unique ID number for all floats deployed (without recycling). The new identifier is to be used in place of the ships call sign, "D..D", not the buoy identifier. It extends the existing buoy ID structure from five to eight characters for floats, but retains the same format, with the addition of the letter Q as the first character: QA_1b_wnnnnn. Letter Q indicates in the TESAC message that the report is from an Argo float but it is not strictly speaking part of the WMO number. The seven-digits float identifier in TESAC was implemented for all floats deployed on and after **1 June 2001**. WMO numbers have to be obtained BEFORE deployment.